**IT Applications Unit 3, AOS 2, Organisations and Data Management**

Complete the following, from Chapter 3, Data Management Tools

**DATABASE DESIGN TOOLS, P 106**

**Naming Conventions**

1. **List the naming conventions that can be applied to a database**

It is important that everything within the database is named properly and can be easily identified.

* Table – tbl
* Queries – qry
* Forms – fms
* Reports - rpt

**Entity-Relationship Diagram, (ERD)**

1. **Describe the nature of these diagrams**

An entity-relationship diagram, ERD, is used by database designers to establish the interrelationships between different data elements (fields). In ERDs, the boxes are commonly used to represent entities, diamonds are used to represent relationships and ovals are used to represent attributes.

1. **Draw the symbols used to represent, entities, relationships and attributes**

|  |  |  |
| --- | --- | --- |
|  |  |  |
| Boxes to represent entities | Diamonds to represent relationships | Ovals to represent attributes of entities |

1. **List the three steps to create an ERD**

In order to create an ERD, firstly identify the entities, then define the relationships and finally add the attributes to each entity.

**Data Structure Table**

1. **Draw a diagram of the data structure table which is used to design a new database**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Field** | **Data Type** | **Field Size** | **Input Mask** | **Caption** | **Description** | **Validation Rule** | **Validation Text** |
| **cliClientID** | Text | 4 |  | Client ID no. | Client’s individual assigned code | Between 1000 and 9999 | Client ID must be between 1000 9999 inclusive |
| **cliLastName** | Text | 30 |  | Last Name | Client Last Name |  |  |
| **cliFirstName** | Text | 30 |  | First Name | Client’s First Name |  |  |
| **cliAddress** | Text | 60 |  | Address | Client’s street address |  |  |
| **cliSuburb** | Text | 20 |  | Suburb | Client’s suburb |  |  |
| **cliPostCode** | Text | 4 | - | Postcode | Client’s postcode |  |  |
| **cliPhone** | Text | 20 | (99) 9999 9999 | Telephone no. | Client’s phone number |  |  |

Note: database tables cannot hold formulas

**Data Structure diagram**

1. **What is the purpose of this diagram?**

The purpose of a date structure diagram is to indicate the relationships that exist between the specific tables of the planned database so that the developer will know how the tables need to e linked.

**Query Design**

1. **What is a query?**

A query is used in databases to filter out only the records that meet the specific criteria.

1. **Distinguish between a primary and a secondary sort**

The left-most field in the query is design view that is assigned to sort specification in the primary sort key. The field next most left is the secondary sort key, and so on. The fields can be dragged to different positions to change the sort order.

Read the query criteria that can be used, including symbols, plain text, \*? Wildcards, etc

**Layout diagram**

1. **What does a layout diagram involve?**

A layout diagram involves sketching what an input form or the output of the solution will look like.

1. **List what is contained on a layout diagram.**

It shows an interface developer the location of elements such as headings, labels and fields.

**Test Data**

1. **When is a set of test data prepared?**

A set of test data is prepared in the design stage that will be used during development to ensure that the solution is functioning correctly.

1. **What is the role of the test data?**

Test data is designed to test all aspects of a solution, including identification and handling of unreasonable or incorrect data. The test data is only removed when all features of the solution are working as planned.

**Validating data**

1. **List the available electronic validation checks in the software**

Electric validation relies on software functions to perform checks on accuracy, completeness and reasonableness. This includes

* Range checks
* Spell checking
* Grammar and punctuation
* Predefined lists
* Data type checks
* Input masks
* Alignment
* IIF() statements

1. **What is an input mask?**

An input mask is used to reduce the chance that invalid data is entered. An input mask can be used on any field containing text or date-type data and controls how the data in entered.